1. my answer will be higher than the correct one ✓

2. when the sign of ΔH changes this means the chemist reversed the equation ✓

3. [illegible] more experimental errors are produced, the percent yield decreases

4. 1.00 Kg of FeS_2

$$\frac{1000\text{ g } FeS_2}{1} \cdot \frac{1\text{ mol of } FeS_2}{120.0\text{ g } FeS_2} = 8.333\text{ moles of } FeS_2 \cdot \frac{2\text{ moles } H_2SO_4}{1} = 16.67$$ ✓

$$\frac{16.67\text{ mole } H_2SO_4}{1} \cdot \frac{98.1\text{ g } H_2SO_4}{1} = 1635.5\text{ g } H_2SO_4 = 1.635 \times 10^3\text{ g}$$

$$= 1.64\text{ g } H_2SO_4$$

Kg ← -1

5. 100.0 g Fe and H_2SO_4

$$100.0 \cdot \frac{1\text{ mole}}{55.8\text{ g Fe}} = 1.79\text{ moles Fe} \qquad \frac{100.0\text{ g } H_2SO_4}{1} \cdot \frac{1\text{ mole}}{98.1\text{ g } H_2SO_4} = 1.02\text{ mols } H_2SO_4$$

6. 2.5 g each reactant → 2.5 g of HF

Py?

$$2.5\text{ g } CaF_2 \cdot \frac{1\text{ mol}}{78.1\text{ g}} = 0.32\text{ moles } CaF_2 \qquad CaF_2: 0.32\text{ mols}$$

$$2.5\text{ g} \cdot \frac{1\text{ mol}}{98.1\text{ g}} = 0.25\text{ moles } H_2SO_4$$

$$.25 \cdot 2\,HF = 0.50\text{ moles HF}$$

$$\frac{0.50\text{ moles}}{1} \cdot \frac{20.0\text{ g HF}}{1\text{ mole}} = 10\text{ g HF}$$

$$\frac{2.5\text{ g}}{10}(100) = 25\%$$ ✓

18/19

95%

Test 1

7. $\Delta H = 3.206 = 618$ J ✓

8. $Cu + Cl_2 \rightarrow CuCl_2$

$+ \; CuCl_2 + \frac{1}{2} Cl_2 \rightarrow CuCl_3$

$Cu + Cl_2 + \cancel{CuCl_2} + \frac{1}{2} Cl_2 \rightarrow \cancel{CuCl_2} + CuCl_3$

$Cu + \frac{3}{2} Cl_2 \rightarrow CuCl_3$ ✓

9. $\Delta H = -206.0 kJ$

$\Delta H = -776.8 kJ$ +

$\Delta H = -982.8$ kJ ✓

10. $2Mn(s) + O_2(g) \rightarrow 2MnO(s) \quad \Delta H = ?$

$2MnO_2(s) \rightarrow 2MnO(s) + O_2(g) \quad \Delta H = 269.7 kJ$

ΔH of $MnO_2(s) = -520.0 kJ$

$-520.0 \cdot 2 = 1040$

$+ \; 269.7$

$= -770.3$ kJ ✓